



February 3, 2022

Mr. David Gibson
Executive Officer
San Diego Regional Water Quality Control Board

Dear Mr. Gibson,

Thank you for the opportunity to comment on Tentative Order No. R9-2022-0005 (TO) for the San Juan Creek Ocean Outfall. I applaud your staff for their diligent work developing the TO and its inclusion of South Coast Water District's Doheny Desalination Project. As you are aware, most of the western United States is in the grip of a significant drought that appears to be more of the norm than the exception as the world learns to adjust to climate change. Seawater desalination is a vital tool for California to increase its water supply without any reliance on precipitation. While water conservation, water recycling, and stormwater capture are also vital tools that must be maximized to their fullest extent, all require precipitation at one stage or another to keep the water supply stable and reliable. Seawater desalination is the only tool available to us that creates potable water supplies without the need for precipitation at any point in its production cycle. Unlike fresh water in the western United States, all experts agree that climate change will be increasing the seawater volume along our coasts.

I have reviewed the TO and will focus my comments on an area of personal expertise. Section 6.3.2.4 of the TO references the Larval Study that would provide the necessary information to support the Mitigation Area of Production Forgone (APF) Re-Evaluation Study detailed under TO Section 6.3.2.3. Most of the sampling and laboratory analysis requirements for the Larval Study are consistent with both the Water Quality Control Plan for Ocean Waters of California (California Ocean Plan) and precedent for this type of study. The last sentence in the TO under Section 6.3.2.4., however, places an unnecessary requirement that is inconsistent with the intent and purpose of the APF. Specifically, I am referring to the provision "*For the purpose of the Larval Study, all marine species shall be identified and counted, including vertebrate and invertebrate species*". This requirement is unprecedented in recent regulatory history and is inconsistent with the intent of the APF. The administrative record¹ regarding the assessment of impacts caused by desalination plants consistently notes the APF as the preferred assessment method and metric. Furthermore, the record notes that the APF accounts for impacts to measured and unmeasured resources (e.g., to invertebrate larvae). This notion is restated under Section 8.5.4.1 of the Final Staff Report² prepared in support of the 2015 Desalination Amendment to the California Ocean Plan where it states: "*A key assumption in the ETM/APF approach is that the APF estimates for*

¹ [Expert Review Panel II on Intake Impacts and Mitigation. Submitted to Mr. Dominic Gregorio, March 14, 2012.](#)

² [Final Staff Report Including the Final Substitute Environmental Documentation Adopted May 6, 2015.](#)



specific species are representative of all species present at that location, even those that were not directly measured.”

Entrainment studies conducted with the approval of California’s regulatory agencies since the 2000’s have consistently used larval fish, crabs, California market squid, and California spiny lobster as the species representative of the local marine community subject to entrainment either by a seawater intake or, more recently, multiport diffuser shearing forces. This group was selected as it includes taxa that are readily identifiable, have substantial life history information such as growth rates needed for the Empirical Transport Model, and represent higher trophic levels that are dependent on the smaller holoplankton that are not directly assessed. Specifically, the APF’s value lies in its ability to represent impacts to the assessed and unassessed taxa as noted in ERPII¹: *“This is because its [APF] calculation assumes that those species assessed are representative of those not assessed.”*

Mr. Gibson, I would urge you and your staff to remove the last sentence from TO Section 6.3.2.4 that states *“For the purpose of the Larval Study, all marine species shall be identified and counted, including vertebrate and invertebrate species”*. The Larval Study Work Plan requirements listed in TO Section 6.3.2.4.1. provide clear guidance that remains consistent with both precedent and the intent of the APF. This is specifically achieved through the requirement for the Larval Study Work Plan to outline: *“Identification procedures and types of marine organisms that will be identified”*.

Please let me know if I can answer any questions regarding this comment and thank you for considering my thoughts.

Sincerely,

Eric Miller, MS